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ALSTERWORTHIA INTERNATIONAL

AN HAWORTHIA SPECIES CONCEPT UPDATE

BY
INGO BREUER

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A Haworthia species concept update

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Introduction

As Bayer published his new species concept in 1999 and Hayashi and Esterhuizen theirs in 2001, it is appropriate that I should now publish mine, first to show the results of my observations and second to enable Haworthia folks to compare and understand the principles of these concepts.

The principles of my concept are briefly described in Breuer (2001) and will be published in more detailed in Volume 3 of "World of Haworthias", where I shall also published the results of my investigations of floral characters, a new infrageneric classification and detailed descriptions of all the accepted taxa.

In the concept published here, 180 taxa are recognized, including 18 new taxa as 'nomen nudum' to be described soon. I recognize 95 taxa with names used by Bayer. Nearly all the other taxa (except the n.n.) are recognized by him too, but with different names and taxonomic status. How many taxa you recognize is more important than their final naming and taxonomic rank. I agree with Steven Hammer (private communication) that in the interests of stable name use it is better to reject all the old doubtful names still in use. This is the reason why I now accept *bayeri* as a better name for *correcta*, because *correcta* is a doubtful name.

Of 18 names used by Hayashi (2001), 3 of them are new taxa (*H. bronkhorstii*, *H. opalina*, *H. scabra* var. *johani*), 2 are renamed taxa because of their status changes (*H. mutica* var. *nigra* becomes *H. chromutica* and *H. emelyae* var. *major* becomes *H. wimii*), 3 are as used by Scott (*H. aristata*, *H. leightonii* and *H. tuberculata*) and 6 are as used by Esterhuizen (*H. archeri*, *H. archeri* var. *dimorpha*, *H. helmia*, *H. integra*, *H. integra* var. *standeri* and *H. intermedia*).

I am not publishing any new combination in this concept, but accept all existing ones for the time being. As a result of the new forthcoming infrageneric classification, there will be a new grouping at species level, probably with some new resultant combinations, therefore it would be premature to make new combinations now.

This concept is a further step towards a more advanced classification to be published in due course. It may be a good compromise based on available taxa and published names.

Using this list:

1. The list includes accepted Haworthia names used by Bayer, Esterhuizen, Hayashi, Scott and some of the original described names. It contains no new names.
2. The list includes all basionyms and synonyms of accepted names, also those which were originally described as *Aloe* or *Aprica*.
3. The list includes only the name of the first description as the synonym, not all the 'in-between-combinations', which would have enlarged the list a great deal (see Breuer 1998).
4. The number cited after the basionyms and synonyms gives the sources of
 - a. the combination for the basionym
 - b. the first citation of the name as a synonym under the accepted name
5. The cited literature concerns only the first descriptions of all names which are used in this list and the combinations of the accepted names. Other literature is not cited.
6. Some citations of names as a synonym are new in this list and instead of a number the expression 'synon. nov.' is given.
7. An attachment with names now regarded as doubtful is also given.

Accepted names in Haworthia

acuminata (M.B.Bayer) M.Hayashi (Fig. 1 page 7)
Basionym: *H. retusa* forma *acuminata* M.B.Bayer (127)
albertinensis n.n. (Fig. 2, page 7)
angustifolia var. **altissima** M.B.Bayer (Fig. 3 page 7)
angustifolia var. **angustifolia** (Fig. 5 page 7)
Synonyms:
Aloe stenophylla Roem. & Schult. (121)
H. albanensis Schönland (102)
H. angustifolia var. *grandis* G.G. Sm. (108)
H. angustifolia var. *paucifolia* G.G.Sm. (121)
angustifolia var. **baylissii** (C.L.Scott) M.B.Bayer (Fig. 4 page 7)
Basionym: *H. baylissii* C.L.Scott (123)

arachnoidea (L.) Duval var. **arachnoidea** (Fig. 6 page 7)
Basionym: *Aloe pumila* var. *arachnoidea* L. (108)
Synonym: *H. arachnoidea* var. *minor* Haw. (108)
arachnoidea var. **aranaea** (A.Berger) M.B.Bayer (Fig. 7 page 7)
Basionym: *H. bolusii* var. *aranaea* A.Berger (123)
arachnoidea var. **gigas** (M.B.Bayer) M.Hayashi (Fig. 8 page 7)
Basionym: *H. gigas* Poelln. (127)
Synonyms: *H. arachnoidea* var. *scabripina* M.B.Bayer (127)
arachnoidea var. **setata** (Haw.) M.B.Bayer (Fig. 9 page 7)
Basionym: *H. setata* Haw. (123)
Synonyms:
Aloe setosa Roem. & Schult. (123)
H. arachnoidea var. *namaquensis* M.B.Bayer *synon. nov.*

- H. setata* var. *major* Haw. (123)
H. setata var. *media* Haw. (123)
- archeri** W.F.Barker ex M.B.Bayer var. **archeri** (Fig. 10 page 7)
- archeri** var. **dimorpha** M.B.Bayer (Fig. 11 page 7)
- aristata** Haw. (Fig. 12 page 7)
Synonyms:
H. setata var. *subinermis* Poelln. (112)
H. setata var. *nigricans* Haw. (121)
H. mclarenii Poelln. (121)
H. unicolor Poelln. (112)
H. venterii Poelln. (112)
- asema** (M.B.Bayer) M.Hayashi (Fig. 13 page 7)
Basionym: *H. monticola* var. *asema* M.B. Bayer (127)
- attenuata** (Haw.) Haw. var. **attenuata** (Fig. 14 page 7)
Basionym: *Aloe attenuata* Haw. (102)
Synonyms:
H. attenuata var. *deltoidea* R.S. Farden (108)
H. attenuata var. *inustata* R.S. Farden (108)
H. attenuata var. *linearis* R.S. Farden (108)
H. attenuata var. *minissima* R.S. Farden (108)
H. attenuata var. *o'donoghueana* R.S. Farden (108)
H. attenuata var. *uilewaalana* R.S. Farden (108)
H. brittenianae Poelln. (121)
H. clariperla Haw. (121)
H. fasciata var. *caespitosa* A.Berger (108)
- attenuata** var. **radula** (Jacq.) M.B.Bayer (Fig. 15 page 7)
Basionym:
Aloe radula Jacq. (123)
H. radula var. *pluriperlata* Haw. (123)
- badia** Poelln. (Fig. 16 page 8)
- bayeri** J.D.Venter & S.A.Hammer var. **bayeri** (Fig. 17 page 8)
- bayeri** var. **scabrifolia** n.n. (Fig. 18 page 8)
- beanii** G.G. Sm. (Fig. 19 page 8)
Synonyms: *beanii* var. *minor* G.G. Sm. synonym.
- beukmannii** (Poelln.) M.Hayashi (Fig. 20 page 8)
Basionym: *H. emelyae* var. *beukmannii* Poelln. (127)
- blackbeardiana** Poelln. var. **blackbeardiana** (Fig. 21 page 8)
Synonyms: *H. inermis* Haw. synonym.
- blackbeardiana** Poelln. var. **major** Poelln. (Fig. 22 page 8)
Synonyms: *H. batteniae* C.L.Scott synonym.
- blackburniae** W.F.Barker (Fig. 23 page 8)
- bolusii** Baker (Fig. 24 page 8)
- bronkhorstii** M.Hayashi (Fig. 25 page 8)
- bruynsii** M.B.Bayer (Fig. 26 page 8)
- caespitosa** Poelln. (Fig. 27 page 8)
Synonyms: *H. mirabilis* var. *consanguinea* M.B.Bayer synonym. nov.
- calcarea** (M.B.Bayer) M.Hayashi (Fig. 28 page 8)
Basionym: *H. mirabilis* var. *calcarea* M.B.Bayer (127)
- chloracantha** Haw. var. **chloracantha** (Fig. 29 page 8)
- chloracantha** var. **denticulifera** (Poelln.) M.B.Bayer (Fig. 30 page 8)
Basionym: *H. angustifolia* var. *denticulifera* Poelln. (102)
Synonyms: *H. angustifolia* var. *liliputana* Uitewaal (102)
- chloracantha** var. **subglauca** Poelln. (Fig. 31 page 9)
- chromutica** M.Hayashi (Fig. 32 page 9)
Basionym: *H. mutica* var. *nigra* M.B. Bayer
- coarctata** var. **adelaidensis** (Poelln.) M.B.Bayer (Fig. 34 page 9)
Basionym: *H. reinwardtii* var. *adelaidensis* Poelln. (123)
Synonyms:
H. reinwardtii var. *bellula* G.G.Sm. (123)
H. reinwardtii Haw. var. *riebeekensis* G.G.Sm. (123)
- coarctata** Haw. var. **coarctata** (Fig. 35 page 9)
Synonyms:
H. chalcidii Marloth & A.Berger (102)
H. coarctata var. *haworthii* forma *major* Resende (123)
H. coarctata var. *kraussii* Resende (123)
H. fallax Poelln. (102)
H. fulva G.G.Sm. (102)
H. greenii Baker synonym.
H. greenii forma *minor* Resende synonym.
H. greenii var. *silvicola* G.G.Sm. (102)
H. musculina G.G.Sm. (102)
H. peacockii Baker synonym.
H. reinwardtii var. *committeesensis* G.G.Sm. (102)
H. reinwardtii var. *conspicua* Poelln. (102)
H. reinwardtii var. *huntsdriftensis* G.G.Sm. (102)
H. reinwardtii var. *pseudocoarctata* Poelln. (102)
- coarctata** Haw. var. **tenuis** (G.G.Sm.) M.B.Bayer (Fig. 37 page 9)
Basionym: *H. reinwardtii* var. *tenuis* G.G.Sm. (101)
- comptoniana** G.G.Sm. (Fig. 33 page 9)
- cooperi** Baker var. **cooperi** (Fig. 36 page 9)
Synonyms: *H. vittata* Baker (102)
- cooperi** var. **dielsiana** (Poelln.) M.B.Bayer (Fig. 38 page 9)
Basionym: *H. dielsiana* Poelln. (123)
Synonyms: *H. joeyae* C.L.Scott (123)
- cooperi** var. **pilifera** (Baker) M.B.Bayer (Fig. 39 page 9)
Basionym: *H. pilifera* Baker (123)
Synonyms:
H. pilifera var. *dielsiana* forma *acuminata* Poelln. (123)
H. stayneri Poelln. (123)
H. stayneri var. *salina* Poelln. (123)
- cooperi** var. **truncata** (Jacobs.) M.B.Bayer (Fig. 40 page 9)
Basionym: *H. obtusa* var. *pilifera* forma *truncata* Jacobs. synonym.
- cooperi** var. **venusta** (C.L.Scott) M.B.Bayer (Fig. 41 page 9)
Basionym: *H. venusta* C.L.Scott (123)
- cyanea** (M.B.Bayer) M.Hayashi (Fig. 42 page 9)
Basionym: *H. decipiens* var. *cyanea* M.B.Bayer (127)
- cymbiformis** (Haw.) Duval var. **cymbiformis** (Fig. 43 page 9)
Basionym: *Aloe cymbiformis* Haw. (102)
Synonyms:
Aloe cymbaefolia Schrad. (123)
Aloe hebes Schult. & Schult.f. (121)
H. concava Haw. (108)
H. cymbiformis var. *angustata* Poelln. (108)
H. cymbiformis angustata forma *subarmata* Poelln. (108)
H. cymbiformis var. *compacta* Triebner (108)
H. lepida G.G.Sm. (102)
H. planifolia Haw. (102)
H. planifolia var. *planifolia* forma *agavoides* Triebner & Poelln. (102)
H. planifolia var. *planifolia* forma *alta* Triebner & Poelln. (102)
H. planifolia var. *planifolia* forma *olivacea* Triebner & Poelln. (102)
H. planifolia var. *planifolia* forma *robusta* Triebner & Poelln. (108)
H. planifolia var. *exulata* Poelln. (102)
H. planifolia var. *incrassata* Poelln. (102)
H. planifolia var. *longifolia* Triebner & Poelln. (108)
H. planifolia var. *longifolia* forma *calochlora* Triebner & Poelln. (102)
H. planifolia var. *poellnitziana* Resende (121)
H. planifolia var. *sublaevis* Poelln. (102)
- cymbiformis** var. **obtusa** (Haw.) Baker (Fig. 44 page 10)
Basionym: *H. obtusa* Haw. (25)
Synonyms:
H. hilliana Poelln. (121)
H. umbraticola Poelln. (121)
- cymbiformis** var. **ramosa** (G.G.Sm.) M.B.Bayer (Fig. 45 page 10)
Basionym: *H. ramosa* G.G.Sm. (123)
- cymbiformis** var. **setulifera** (Poelln.) M.B.Bayer (Fig. 46. page 10)

- Basionym: *H. planifolia* var. *setulifera* Poelln. (123)
Synonyms: *H. cymbiformis* var. *obesa* Poelln. (123)
- decipiens** Poelln. var. **decipiens** (Fig. 47 page 10)
- decipiens** var. **minor** M.B.Bayer (Fig. 48 page 10)
Synonyms: *H. gracilis* var. *viridis* M.B.Bayer synon.nov.
- dekenahii** G.G.Sm. (Fig. 49 page 10)
- dentata** (M.B.Bayer) M.Hayashi (Fig. 50 page 10)
Basionym: *H. floribunda* var. *dentata* M.B.Bayer (127)
- denticulata** Haw. (Fig. 51 page 10)
- devriesii** n.n. (Fig. 52 page 10)
- esterhuizenii** n.n. (Fig. 53 page 10)
- fasciata** (Willd.) Haw. (Fig. 59 page 11)
Basionym: *Apicra fasciata* Willd. (102)
Synonyms:
Aloe fasciata var. *major* Salm-Dyck (108)
Aloe fasciata var. *minor* Salm-Dyck (121)
H. browniana Poelln. (123)
H. fasciata var. *fasciata* forma *ovato-lanceolata* Poelln. (108)
H. fasciata var. *fasciata* forma *sparsa* Poelln. (108)
H. fasciata var. *fasciata* forma *vanstadensis* Poelln. (108)
H. fasciata var. *fasciata* forma *variabilis* Poelln. (108)
H. fasciata var. *subconfluens* Poelln. (108)
- floribunda** Poelln. var. **floribunda** (Fig. 54 page 10)
- floribunda** var. **major** M.B.Bayer (Fig. 55 page 10)
- geraldii** C.L.Scott (Fig. 60 page 11)
- glabrata** (Salm-Dyck) Baker (Fig. 61 page 11)
Basionym: *Aloe glabrata* Salm-Dyck (102)
- glauca** Baker (Fig. 64 page 11)
H. armstrongii Poelln. synon.nov.
H. carrisoi Salm-Dyck (102)
H. eilyae Poelln. synon.nov.
H. eilyae var. *zantneriana* Resende synon.nov.
H. herrei Poelln. synon.nov.
H. herrei var. *depauperata* Poelln. synon.nov.
H. jacobseniana Poelln. synon.nov.
H. jonesiae Poelln. synon.nov.
- globifera** (M.B.Bayer) M.Hayashi (Fig. 56 page 10)
Basionym: *pulchella* var. *globifera* M.B.Bayer (127)
- globosiflora** G.G.Sm. (Fig. 57 page 10)
- gordoniana** Poelln. (Fig. 58 page 10)
- gracilis** Poelln. var. **gracilis** (Fig. 62 page 11)
- gracilis** var. **picturata** M.B.Bayer (Fig. 63 page 11)
- graminifolia** G.G.Sm. (Fig. 69 page 11)
Synonyms: *H. blackburniae* var. *derustensis* M.B.Bayer synon. nov
- granulata** Marloth (Fig. 70 page 11)
- habdomadis** Poelln. (Fig. 65 page 11)
- heidelbergensis** G.G.Sm. var. **heidelbergensis** (Fig. 66 page 11)
- heidelbergensis** var. **minor** M.B.Bayer (Fig. 67 page 11)
- heidelbergensis** var. **scabra** M.B.Bayer (Fig. 71 page 11)
- heidelbergensis** var. **toonensis** M.B.Bayer (Fig. 68 page 11)
- herbacea** var. **flaccida** M.B.Bayer (Fig. 72 page 12)
- herbacea** (Mill.) Stearn var. **herbacea** (Fig. 73 page 12)
Basionym: *Aloe herbacea* Mill. (102)
Synonyms:
Aloe arachnoidea var. *pellucens* Salm-Dyck (121)
Aloe bradlyana Jacq. (121)
Aloe translucens Haw. (121)
Catevala atroviridis Medik (121),
H. aegrota Poelln. (102)
- H. luteorosea* Uitewaal (102)
H. pallida Haw. (102)
H. paynei Poelln. (102)
H. pellucens Haw. (121)
H. submaculata Poelln. (102)
- incurvula** Poelln. (Fig. 74 page 12)
- integra** Poelln. var. **integra** (Fig. 75 page 12)
Synonyms: *H. rycroftiana* M.B.Bayer (121)
- integra** var. **standeri** J.M. Esterhuizen (Fig. 76 page 12)
- intermedia** Poelln. (Fig. 77 page 12)
- isabellae** Poelln. (Fig. 78 page 12)
- jansenvillensis** n.n. (Fig. 79 page 12)
- kingiana** Poelln. (Fig. 80 page 12)
- koelmaniorum** Oberm. & D.S.Hardy var. **koelmaniorum** (Fig. 81 page 12)
- koelmaniorum** var. **mcmurtryi** (C.L.Scott) M.B.Bayer (Fig. 82 page 12)
Basionym: *H. mcmurtryi* C.L.Scott (123)
- leightonii** var. **davidii** n.n. (Fig. 84 page 12)
- leightonii** var. **doldii** n.n. (Fig. 85 page 12)
- leightonii** G.G.Sm. var. **leightonii** (Fig. 83 page 12)
- limifolia** var. **arcana** G.F.Smith & N.R.Crouch (Fig. 86 page 12)
- limifolia** Marloth var. **limifolia** (Fig. 87 page 13)
Synonyms:
H. limifolia var. *gigantea* M.B.Bayer
H. limifolia var. *limifolia* forma *diploidea* Resende.
H. limifolia var. *limifolia* forma *tetraploidea* Resende
H. limifolia var. *stolonifera* Resende
H. limifolia var. *stolonifera* forma *major* Resende
H. limifolia var. *stolonifera* forma *pimentellii* Resende
- limifolia** var. **ubomboensis** (I.Verd.) G.G.Sm. (Fig. 88 page 13)
Basionym: *H. ubomboensis* I.Verd. (42)
Synonyms: *H. limifolia* var. *keithii* G.G.Sm. synon. nov.
- lockwoodii** Archibald (Fig. 89 page 13)
- longiana** Poelln. (Fig. 96 page 13)
Synonyms: *longiana* var. *albinota* G.G.Sm. (102)
- lupula** (M.B.Bayer) M.Hayashi (Fig. 90 page 13)
Basionym: *H. herbacea* var. *lupula* M.B.Bayer
- maculata** (Poelln.) M.B.Bayer (Fig. 91 page 13)
Basionym: *H. schultiana* var. *maculata* Poelln. (102)
- magnifica** var. **atrofusca** (G.G.Sm.) M.B.Bayer (Fig. 92 page 13)
Basionym: *H. atrofusca* G.G.Sm. (103)
- magnifica** Poelln. var. **magnifica** (Fig. 95 page 13)
- magnifica** var. **maraisii** (Poelln.) M.B.Bayer (Fig. 93 page 13)
Basionym: *H. maraisii* Poelln.
- magnifica** var. **pseudomutica** n.n. (Fig. 94 page 13)
- marginata** (Lam.) Stearn (Fig. 97 page 13)
Basionym: *Aloe marginata* Lam. (102)
Synonyms:
Aloe albicans Haw. (102)
H. laevis Haw. (102)
H. ramifera Haw. (102)
H. virescens Haw. (102)
H. virescens var. *minor* Haw. (121)
- marumiana** var. **batesiana** (Uitewaal) M.B. Bayer (Fig. 98 page 13)
Basionym: *H. batesiana* Uitewaal (123)
- marumiana** Uitewaal var. **marumiana** (Fig. 99 page 13)
- marumiana** var. **viridis** M.B. Bayer (Fig. 100 page 13)
- maughanii** Poelln. (Fig. 101 page 13)
- maxima** (Haw.) Duval (Fig. 105 page 14)

Basionym: *Aloe margaritifera* var. *maxima* Haw. (126)

Synonyms:

Aloe papillosa Salm-Dyck *synon. nov.*

Aloe semimargaritifera Salm-Dyck (126)

Aloe semimargaritifera var. *maxima* Salm-Dyck (126)

H. papillosa var. *semipapillosa* Haw. *synon. nov.*

H. semiglabrata Haw. *synon. nov.*

meiringii (M.B. Bayer) M. Hayashi (Fig. 106 page 14)

Basionym: *H. maraisii* var. *meiringii* M.B. Bayer

minima (Aiton) Haw. (Fig. 107 page 14)

Basionym: *Aloe margaritifera* var. *minima* Aiton (102)

Synonyms:

Aloe erecta var. *laetevirens* Salm-Dyck (102)

Aloe granata var. *major* Salm-Dyck (121)

Aloe granata var. *minor* Salm-Dyck (121)

Aloe margaritifera var. *minor* Aiton (123)

Aloe pumila var. β L. (123)

Aloe pumila var. γ L. (121)

Apicra granata Willd. (102)

H. brevis Haw. (102)

H. erecta Haw. (123)

H. granata var. *polyphylla* Haw. (102)

H. margaritifera var. *corallina* Baker (108)

H. mutabilis Poelln. (102)

H. poellnitziana Uitewaal (123)

mirabilis (Haw.) Haw. (Fig. 102 page 14)

Basionym: *Aloe mirabilis* Haw. (102)

Synonyms: *H. mundula* G.G.Sm. (123)

modesta (M.B. Bayer) M. Hayashi (Fig. 103 page 14)

Basionym: *H. variegata* var. *modesta* M.B. Bayer (127)

Synonyms: *H. variegata* var. *petrophila* M.B. Bayer *synon. nov.*

monticola Fourcade (Fig. 104 page 14)

Synonyms: *H. divergens* M.B. Bayer (123)

mucronata var. *calitzdorpensis* n.n. (Fig. 108 page 14)

mucronata var. *morrisiae* (Poelln.) M.B. Bayer (Fig. 109 page 14)

Basionym: *H. altilinea* var. *morrisiae* Poelln. (123)

mucronata Haw. var. *mucronata* (Fig. 110 page 14)

Synonyms:

H. altilinea var. *limpida* forma *inconfluens* Poelln. *synon. nov.*

H. limpida Haw. (121)

multifolia (M.B. Bayer) M. Hayashi var. **multifolia** (Fig. 111 page 14)

Basionym: *H. emelyae* var. *multifolia* M.B. Bayer (127)

multifolia var. *sandkraalensis* n.n. (Fig. 112 page 14)

mutica Haw. (Fig. 113 page 14)

Synonyms: *H. otzenii* G.G.Sm. (102)

nigra var. *diversifolia* (Poelln.) Uitewaal (Fig. 118 page 15)

Basionym: *H. diversifolia* Poelln. (123)

Synonyms: *H. schmidtiana* var. *diversifolia* forma *nana* Poelln. (123)

nigra (Haw.) Baker var. **nigra** (Fig. 117 page 15)

Basionym: *Apicra nigra* Haw. (102)

Synonyms:

H. ryneveldii Poelln. (102)

H. schmidtiana Poelln. (102)

H. schmidtiana Poelln. var. *angustata* Poelln. (102)

H. schmidtiana Poelln. var. *elongata* Poelln. (102)

H. schmidtiana Poelln. var. *pusilla* Poelln. (102)

H. schmidtiana Poelln. var. *suberectata* Poelln. (102)

nortieri G.G.Sm. (Fig. 115 page 14)

Synonyms:

H. nortieri var. *giftbergensis* G.G.Sm. (108)

H. nortieri var. *montana* G.G.Sm. (108)

notabilis Poelln. (Fig. 114 page 14)

Synonyms: *H. schuldiana* var. *erecta* Triebner & Poelln. (102)

odettae n.n. (Fig. 116 page 14)

opalina M. Hayashi (Fig. 119 page 15)

outeniquensis M.B. Bayer (Fig. 120 page 15)

paradoxa Poelln. (Fig. 121 page 15)

parksiana Poelln. (Fig. 122 page 15)

pehlemanniae C.L. Scott (Fig. 123 page 15)

picta var. *janvlokii* n.n. (Fig. 124 page 15)

picta Poelln. var. *picta* (Fig. 125 page 15)

picta var. *tricolor* n.n. (Fig. 126 page 15)

pringlei C.L. Scott (Fig. 127 page 15)

pubescens var. *livida* M.B. Bayer (Fig. 128 page 15)

pubescens M.B. Bayer var. **pubescens** (Fig. 129 page 15)

pulchella M.B. Bayer (Fig. 130 page 15)

pungens M.B. Bayer (Fig. 131 page 15)

pygmaea var. **argenteo-maculosa** (G.G.Sm.) M.B. Bayer (Fig. 132 page 16)

Basionym: *H. dekenahii* var. *argenteo-maculosa* G.G.Sm. (117)

pygmaea Poelln. var. **pygmaea** (Fig. 133 page 16)

reddii C.L. Scott (Fig. 134 page 16)

reinwardtii var. *brevicula* G.G.Sm. (Fig. 138 page 16)

Synonyms: *H. reinwardtii* var. *diminuta* G.G.Sm. (102)

reinwardtii (Salm-Dyck) Haw. var. **reinwardtii** (Fig. 139 page 16)

Basionym: *Aloe reinwardtii* Salm-Dyck (102)

Synonyms:

H. reinwardtii var. *archibaldiae* Poelln. (108)

H. reinwardtii var. *chalmensis* G.G.Sm. *synon. nov.*

H. reinwardtii var. *grandicula* G.G.Sm. (108)

H. reinwardtii var. *kaffirdriftensis* G.G.Sm. *synon. nov.*

H. reinwardtii var. *major* Baker (108)

H. reinwardtii var. *peddiensis* G.G.Sm. (108)

H. reinwardtii var. *pulchra* Poelln. (108)

H. reinwardtii var. *triebnerii* Resende (108)

H. reinwardtii var. *valida* G.G.Sm. (108)

reinwardtii var. **zebrina** G.G.Sm. (Fig. 140 page 16)

Synonyms: *H. reinwardtii* var. *olivacea* G.G.Sm.

reticulata var. **hurlingii** (Poelln.) M.B. Bayer (Fig. 135 page 16)

Basionym: *H. hurlingii* Poelln. (108)

reticulata (Haw.) Haw. var. **reticulata** (Fig. 136 page 16)

Basionym:

Aloe reticulata Haw. (108) Synonyms:

Aloe pumilio Jacq. (121)

H. guttata Uitewaal (108)

H. hurlingii var. *ambigua* Poelln. (102)

H. reticulata var. *acuminata* Poelln. (108)

H. reticulata var. *attenuata* M.B. Bayer *synon. nov.*

reticulata var. **subregularis** (Baker) Pilbeam (Fig. 141 page 16)

Basionym: *H. subregularis* Baker. (123)

Synonyms:

H. haageana Poelln. (123)

H. haageana var. *subreticulata* Poelln. (123)

retusa (L.) Duval (Fig. 144 page 16)

Basionym: *Aloe retusa* L. (102)

Synonyms:

H. fouchei Poelln. (102)

H. retusa var. *densiflora* G.G.Sm. (108)

H. retusa var. *multilineata* G.G.Sm. (108)

H. retusa var. *solitaria* G.G.Sm. (108)

rooibergensis (J.M. Esterhuizen & L. Battista) M. Hayashi (Fig. 137 page 16)

Basionym: *H. mucronata* var. *rooibergensis* J.M. Esterhuizen & L. Battista

scabra var. **johanii** M. Hayashi (Fig. 142 page 16)

scabra Haw. var. **scabra** (Fig. 143 page 16)

Synonyms: *H. morrisiae* Poelln. synonym. nov.

schuldiana Poelln. (Fig. 145 page 16)

Synonyms:

H. schuldiana var. *minor* Triebner & Poelln. synonym. nov.

H. schuldiana var. *robertsonensis* Poelln. synonym. nov.

H. schuldiana var. *simplicior* Poelln. synonym. nov.

H. schuldiana var. *sublaevis* Poelln. synonym. nov.

H. schuldiana var. *subtuberculata* Poelln. synonym. nov.

H. schuldiana var. *unilineata* Poelln. synonym. nov.

H. sublimpidula Poelln. synonym. nov.

H. triebneriana var. *diversicolor* Triebner & Poelln. synonym. nov.

H. whitesloaneana Poelln. synonym. nov.

scottii n.n. (Fig. 146 page 16)

semiviva (Poelln.) M.B. Bayer (Fig. 147 page 16)

Basionym: *H. bolusi* var. *semiviva* Poelln. (102)

serrata M.B. Bayer (Fig. 148 page 17)

sordida var. **lavranii** C.L. Scott (Fig. 149 page 17)

sordida Haw. var. **sordida** (Fig. 150 page 17)

Synonyms: *H. agavoides* Zantner & Poelln. (102)

splendens (J.D. Venter & S.A. Hammer) M. Hayashi (Fig. 151 page 17)

Basionym: *H. magnifica* var. *splendens* J.D. Venter & S.A. Hammer

springbokvlakensis C.L. Scott (Fig. 152 page 17)

starkiana Poelln. (Fig. 153 page 17)

Synonyms: *H. smitii* Poelln. synonym. nov.

tenera Poelln. (Fig. 154 page 17)

tessellata Haw. (Fig. 155 page 17)

Synonyms:

H. engleri Dinter synonym. nov.

H. minutissima Poelln. synonym. nov.

H. parva Haw. synonym. nov.

H. pseudotessellata Poelln. synonym. nov.

H. tessellata var. *coriacea* Resende & Poelln. synonym. nov.

H. tessellata var. *coriacea* forma *brevior* Resende & Poelln. synonym. nov.

H. tessellata var. *coriacea* forma *longior* Resende & Poelln. synonym. nov.

H. tessellata var. *elongata* Woerden synonym. nov.

H. tessellata var. *inflexa* Baker synonym. nov.

H. tessellata var. *luisieri* Resende & Poelln. synonym. nov.

H. tessellata var. *obesa* Resende & Poelln. synonym. nov.

H. tessellata Haw. var. *pallidifolia* Resende & Poelln. synonym. nov.

H. tessellata var. *parva* forma *major* J.R. Br. synonym. nov.

H. tessellata var. *simplex* Resende & Poelln. synonym. nov.

H. tessellata var. *stephaniana* Resende & Poelln. synonym. nov.

H. tessellata var. *tuberculata* Poelln. synonym. nov.

H. tessellata var. *velutina* Resende & Poelln. synonym. nov.

tradouwensis n.n. (Fig. 156 page 17)

transiens (Poelln.) M. Hayashi (Fig. 157 page 17)

Basionym: *H. planifolia* Haw. var. *transiens* Poelln. (127)

Synonyms:

H. cymbiformis var. *brevifolia* Poelln. synonym. nov.

H. cymbiformis var. *multifolia* Triebner synonym. nov.

H. cymbiformis var. *translucens* Triebner & Poelln. synonym. nov.

tretyrensis n.n. (Fig. 158 page 17)

triebneriana var. **sublineata** Poelln. (Fig. 159 page 17)

triebneriana Poelln. var. **triebneriana** (Fig. 160 page 17)

Synonyms:

H. nitidula Poelln. synonym. nov.

H. triebneriana var. *depauperata* Poelln. synonym. nov.

H. triebneriana var. *multituberculata* Poelln. synonym. nov.

H. triebneriana var. *napiensis* Triebner & Poelln. synonym. nov.

H. triebneriana var. *pulchra* Poelln. synonym. nov.

H. triebneriana var. *rubrodeniata* Triebner & Poelln. synonym. nov.

H. triebneriana var. *subtuberculata* Triebner & Poelln. synonym. nov.

H. triebneriana var. *turgida* Triebner synonym. nov.

H. willowmorensis Poelln. synonym. nov.

truncata forma **crassa** Poelln. (Fig. 161 page 17)

truncata var. **minor** n.n. (Fig. 163 page 18)

truncata Schönland forma **truncata** (Fig. 162 page 17)

Synonyms: *H. truncata* forma *tenuis* Poelln. (108)

tuberculata Poelln. (Fig. 164 page 18)

Synonyms:

H. tuberculata var. *acuminata* Poelln. synonym. nov.

H. tuberculata var. *angustata* Poelln. synonym. nov.

H. tuberculata var. *subexpansa* Poelln. synonym. nov.

H. tuberculata var. *sublaevis* Poelln. synonym. nov.

turgida var. **longibracteata** (G.G. Sm.) M.B. Bayer (Fig. 165 page 18)

Synonyms: *H. longibracteata* G.G. Sm. (123)

turgida var. **suberecta** Poelln. (Fig. 166 page 18)

Synonyms:

H. turgida var. *pallidifolia* G.G. Sm. (123)

H. turgida var. *subtuberculata* Poelln. (123)

turgida Haw. var. **turgida** (Fig. 167 page 18)

Synonyms: *H. laetevirens* Haw. (102)

variegata L. Bolus (Fig. 168 page 18)

Synonyms:

variegata var. *hemicypta* M.B. Bayer synonym. nov.

venosa (Lam.) Haw. (Fig. 169 page 18)

Basionym: *Aloe venosa* Lam. (102)

Synonyms:

Aloe recurva Haw. (108)

Aloe tricolor Haw. (123)

H. distincta N.E. Brown (108)

H. venosa var. *oertendahlii* H. Hjelmquist (108)

viscosa var. **variabilis** n.n. (Fig. 170 page 18)

viscosa (L.) Haw. var. **viscosa** (Fig. 171 page 18)

Basionym: *Aloe viscosa* L. (102)

Synonyms:

Aloe pseudotortuosa Salm-Dyck (102)

Aloe subtortuosa Roem. & Schult. (121)

Aloe tortuosa Haw. (102)

Aloe triangularis Medik. (121)

H. asperiuscula Haw. (102)

H. asperiuscula var. *patagiata* G.G. Sm. (102)

H. asperiuscula var. *subintegra* G.G. Sm. (102)

H. concinna Haw. (102)

H. cordifolia Haw. (102)

H. indurata Haw. (102)

H. torquata Haw. (102)

H. viscosa ssp. *derki-clarki* J.J. Halda (123)

H. viscosa var. *caespitosa* Poelln. (102)

H. viscosa var. *cougaensis* G.G. Sm. (102)

H. viscosa var. *major* Haw. (102)

H. viscosa var. *minor* Haw. (102)

H. viscosa var. *parvifolia* Haw. (102)

H. viscosa var. *quaggaensis* G.G. Sm. (108)

H. viscosa var. *subobtusa* Poelln. (102)

H. viscosa var. *viridissima* G.G. Sm. (102)

vlokii M.B. Bayer (Fig. 172 page 18)

wimii M. Hayashi (Fig. 173 page 18)

Basionym: *H. schuldiana* var. *major* G.G. Sm. (127)

wittebergensis W.F. Barker (Fig. 174 page 18)

woolleyi Poelln. (Fig. 175 page 18)

xiphophylla Baker (Fig. 176 page 18)

Synonyms: *H. longiaristata* Poelln. (123)

zantneriana Poelln. (Fig. 177 page 18)

Synonyms: *H. zantneriana* var. *minor* M.B. Bayer synonym. nov.



Fig. 1 *H. acuminata* IB272



Fig. 2 *H. albertinensis* n.n. IB5342



Fig. 3 *H. angustifolia* v. *altissima* IB4154



Fig. 4 *H. angustifolia* v. *baylissii* IB5172

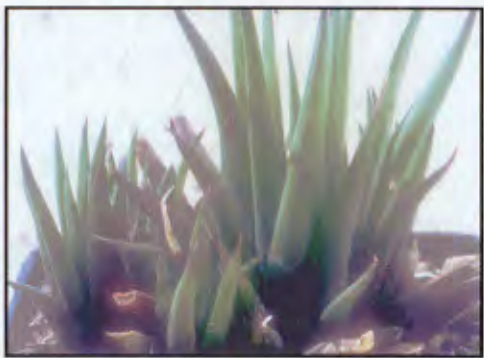


Fig. 5 *H. angustifolia* v. *angustifolia* IB5743



Fig. 6 *H. arachnoidea* v. *arachnoidea* IB6051



Fig. 7 *H. arachnoidea* v. *aranea* IB6579



Fig. 8 *H. arachnoidea* v. *gigas* IB6448



Fig. 9 *H. arachnoidea* v. *setata* IB6577



Fig. 10 *H. archeri* v. *archeri* IB6679



Fig. 11 *H. archeri* v. *dimorpha* CC01340



Fig. 12 *H. aristata* IB6585



Fig. 13 *H. asema* IB4553



Fig. 14 *H. attenuata* v. *attenuata* IB346



Fig. 15 *H. attenuata* v. *radula* IB6522



Fig. 16 *Haworthia badia* IB311



Fig. 17 *H. bayeri* v. *bayeri* IB5620



Fig. 18 *H. bayeri* v. *scabrifolia* n.n. IB6383



Fig. 19 *H. beanii* IB284



Fig. 20 *H. beukmannii* IB155



Fig. 21 *H. blackbeardiana* v. *blackbeardiana* IB77

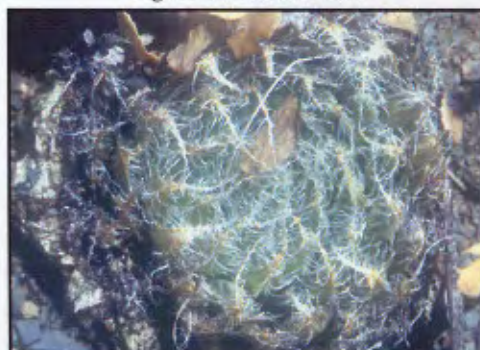


Fig. 22 *H. blackbeardiana* v. *major* IB7013

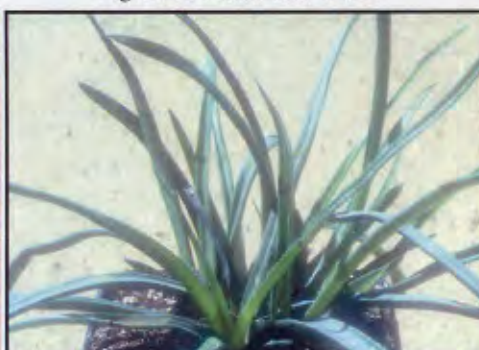


Fig. 23 *H. blackburniae* IB5528



Fig. 24 *H. bolusii* IB5438



Fig. 25 *H. bronkhorstii* IB834



Fig. 26 *H. bruynsii* IB6451



Fig. 27 *H. caespitosa* IB4521



Fig. 28 *H. calcarea* IB231



Fig. 29 *H. chloracantha* v. *chloracantha* IB5470



Fig. 30 *H. chloracantha* v. *denticulifera* IB5594



Fig. 31 *H. chloracantha* v. *subglaucula* IB5497



Fig. 32 *H. chromutica* IB5639



Fig. 33 *H. comptoniana* IB4535



Fig. 34 *H. coarctata* v. *adalaidensis* IB387



Fig. 35 *H. coarctata* v. *coarctata* IB6549



Fig. 36 *H. cooperi* v. *cooperi* IB6144



Fig. 37 *H. coarctata* v. *tenuis* IB5843



Fig. 38 *H. cooperi* v. *dielsiana* IB6159



Fig. 39 *H. cooperi* v. *pilifera* IB5530



Fig. 40 *H. cooperi* v. *truncata* IB639



Fig. 41 *H. cooperi* v. *venusta* IB6130



Fig. 42 *H. cyanea* IB5397

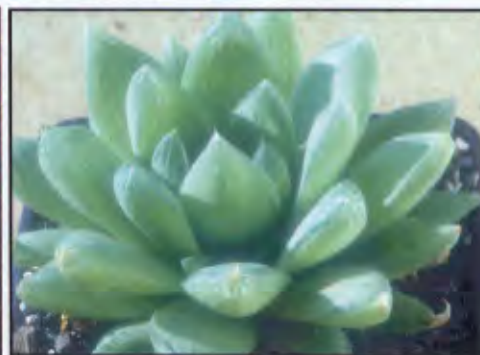


Fig. 43 *H. cymbiformis* v. *cymbiformis* IB4169



Fig. 44 *H. cymbiformis* v. *obtusa* IB6072



Fig. 45 *H. cymbiformis* v. *ramosa* IB5740



Fig. 46 *H. cymbiformis* v. *setulifera* IB 4750



Fig. 47 *H. decipiens* v. *decipiens* IB5679



Fig. 48 *H. decipiens* v. *minor* IB6296



Fig. 49 *H. dekenahii* IB2841



Fig. 50 *H. dentata* IB5130



Fig. 51 *H. denticulata* IB5597



Fig. 52 *H. devriesii* n.n. IB6930



Fig. 53 *H. esterhuizenii* n.n. IB733



Fig. 54 *H. floribunda* v. *floribunda* IB2832



Fig. 55 *H. floribunda* v. *major* IB608



Fig. 56 *H. globifera* IB6167



Fig. 57 *H. globosiflora* IB5396



Fig. 58 *H. gordoniana* IB6442



Fig. 59 *H. fasciata* IB7195



Fig. 60 *H. geraldii* IB4202



Fig. 61 *H. glabrata* IB680



Fig. 62 *H. gracilis* v. *gracilis* IB5551



Fig. 63 *H. gracilis* v. *picturata* IB6184



Fig. 64 (above) *H. glauca* IB5339
Fig. 65 (right) *H. habdomadis* IB5417
Fig. 66 (far right) *H. heidelbergensis* v.
heidelbergensis IB796

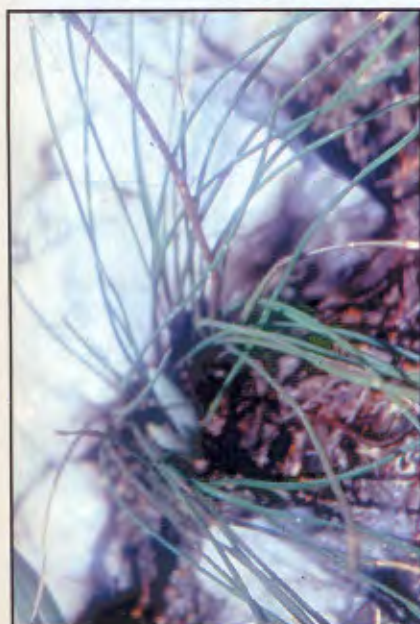


Fig. 67 ↑ *H. heidelbergensis* v. *minor* IB6154
Fig. 68 ↓ *H. heidelbergensis* v. *toonensis* IB2833



Fig. 69 (above) *H. graminifolia* PV99
Fig. 70 (right above) *H. granulata* IB5690
Fig. 71 (right) *H. heidelbergensis* v.
scabra IB66



Fig. 72 *H. herbacea* v. *flaccida* IB6478



Fig. 73 *H. herbacea* v. *herbacea* IB5562



Fig. 74 *H. incurvula* IB6539



Fig. 75 *H. integra* v. *integra* IB6651



Fig. 76 *H. integra* v. *standeri* IB5174



Fig. 77 *H. intermedia* IB4183



Fig. 78 *H. isabellae* IB3563



Fig. 79 *H. jansenvillensis* n.n. IB6996



Fig. 80 *H. kingiana* IB6017



Fig. 81 *H. koelmaniorum* v. *koelmaniorum* IB5413



Fig. 82 *H. koelmaniorum* v. *mcmurtryi* IB5423



Fig. 83 *H. leightonii* v. *leightonii* IB4735



Fig. 84 *H. leightonii* v. *davidii* n.n. IB6970



Fig. 85 *H. leightonii* v. *doldii* n.n. IB6972



Fig. 86 *H. limifolia* v. *arcana* IB6746



Fig. 87 *H. limifolia* v. *limifolia* IB396



Fig. 88 *H. limifolia* v. *ubomboensis* IB4529



Fig. 89 *H. lockwoodii* IB6739



Fig. 90 *H. lupula* IB4760



Fig. 91 *H. maculata* IB5385

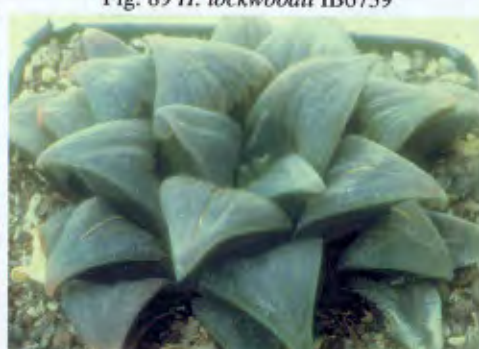


Fig. 92 *H. magnifica* v. *atrofusca* IB5675



Fig. 93 *H. magnifica* v. *maraisii* IB5926



Fig. 94 *H. magnifica* v. *pseudomutica* n.n. IB511



Fig. 95
above
H. magnifica
v.
magnifica
IB38



Fig. 96
left
H. longiana
IB6530



Fig. 97 *H. marginata* IB7158



Fig. 98 *H. marumiana* v. *batesiana* IB5321



Fig. 99 *H. marumiana* v. *marumiana* IB5789



Fig. 100 *H. marumiana* v. *viridis* IB4608

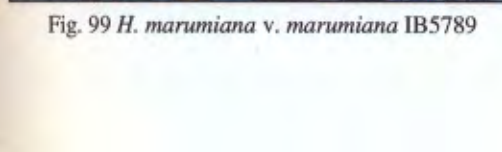


Fig. 101 *H. maughanii* IB 839



Fig. 102 *H. mirabilis* IB4768



Fig. 103 *H. modesta* IB300



Fig. 104 *H. monticola* IB4554



Fig. 105 *Haworthia maxima* IB6463



Fig. 106 *H. meiringii* IB4664



Fig. 107 *H. minima* IB6648



Fig. 108 *H. mucronata* v. *calitzdorpensis* n.n. IB5425



Fig. 109 *H. mucronata* v. *morrisiae* IB7110



Fig. 110 *H. mucronata* v. *mucronata* IB5394



Fig. 111 *H. multifolia* v. *multifolia* IB465



Fig. 112 *H. multifolia* v. *sandkraalensis* IB640



Fig. 113 *H. mutica* IB5623



Fig. 114 *H. notabilis* IB4665



Fig. 115 *H. nortieri* IB6166



Fig. 116 *H. odetteae* n.n. IB6998



Fig. 117 *H. nigra* v. *nigra* IB4188



Fig. 118 *H. nigra* v. *diversifolia* IB7121



Fig. 119 *H. opalina* IB5653



Fig. 120 *H. outeniquensis* IB4607



Fig. 121 *H. paradoxa* IB2834



Fig. 122 *H. parksiana* IB850



Fig. 123 *H. pehlemanniae* IB6204



Fig. 124 *H. picta* v. *janvlokii* n.n. IB5334



Fig. 125 *H. picta* v. *picta* IB5337



Fig. 126 *H. picta* v. *tricolour* n.n. IB6775



Fig. 127 *H. pringlei* IB6472



Fig. 128 *H. pubescens* v. *livida* IB5448



Fig. 129 *H. pubescens* v. *pubescens* IB5561



Fig. 130 *H. pulchella* IB4784



Fig. 131 *H. pungens* IB6133



Fig. 132 *H. pygmaea* v. *argenteo-maculosa* IB5330



Fig. 133 *H. pygmaea* v. *pygmaea* IB2840



Fig. 134 *H. reddii* IB5327



Fig. 135 *H. reticulata* v. *hurlingii* IB5807



Fig. 136 *H. reticulata* v. *reticulata* IB790

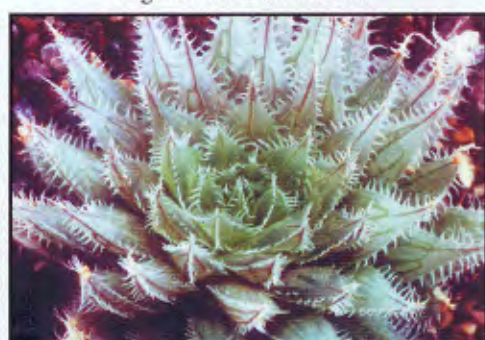


Fig. 137 *H. rooibergensis* IB6230



H. reinwardtii. Fig. 138 left v. *brevicula* IB5698. Fig. 139 centre v. *reinwardtii* IB 7016. Fig. 140 right v. *zebrina* IB6976 Fig. 141 *H. reticulata* v. *subregularis* IB5802

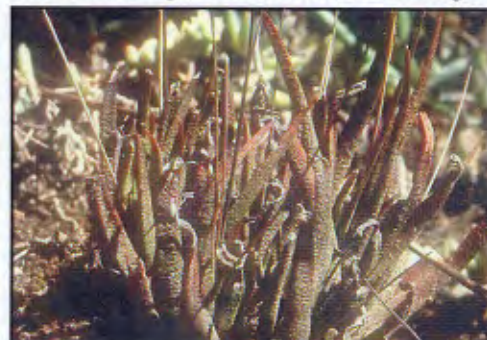


Fig. 142 *H. scabra* v. *johanii* IB7184



Fig. 143 *H. scabra* v. *scabra* IB7188



Fig. 144 *H. retusa* IB715



Fig. 145 *H. schultiana* IB6018



Fig. 146 *H. scottii* n.n. IB5418

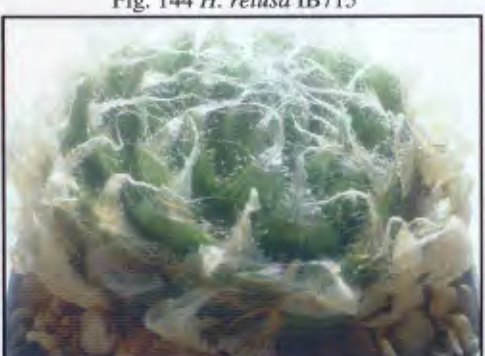


Fig. 147 *H. semiviva* IB218



Fig. 148 *H. serrata* IB619



Fig. 149 *H. sordida* v. *lavranii* IB6501



Fig. 150 *H. sordida* v. *sordida* IB227



Fig. 151 *H. splendens* IB5375



Fig. 152 *H. springbokvlakensis* IB321



Fig. 153 *H. starkiana* IB5384



Fig. 154 *H. tenera* IB430



Fig. 155 *H. tessellata* IB7135

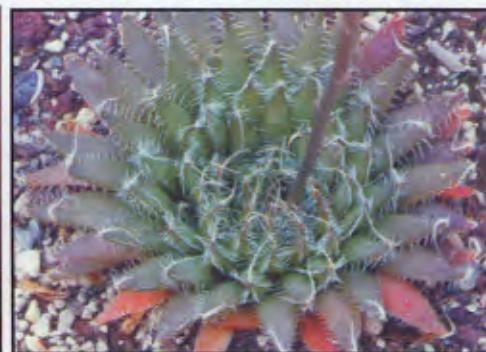


Fig. 156 *H. tradouwensis* n.n. IB5510



Fig. 157 *H. transiens* IB5367

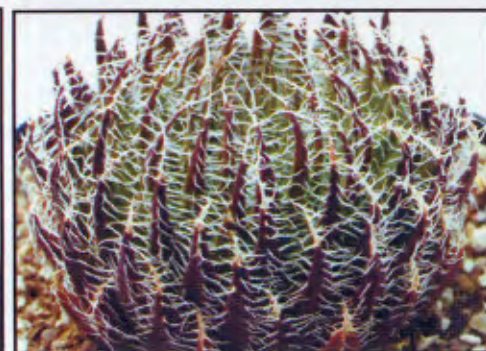


Fig. 158 *H. tretyrensis* n.n. IB5372



Fig. 159 *H. triebneriana* v. *sublineata* IB 6162



Fig. 160 *H. triebneriana* v. *triebneriana* IB4522



Fig. 161 *H. truncata* forma *crassa* IB5410

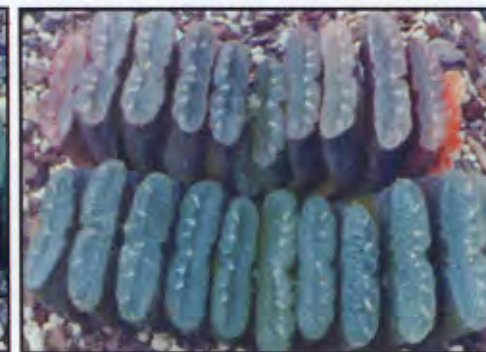


Fig. 162 *H. truncata* forma *truncata* IB341



Fig. 163 *H. truncata* v. *minor* n.n. IB6629



Fig. 164 *H. tuberculata* IB5351



Fig. 165 *H. turgida* v. *longibracteata* IB644



Fig. 166 *H. turgida* v. *suberecta* IB100



Fig. 167 *H. turgida* v. *turgida* IB4215



Fig. 168 *H. variegata* IB5135



Fig. 169 *H. venosa* IB5115



Fig. 170 *H. viscosa* v. *variabilis* IB7193

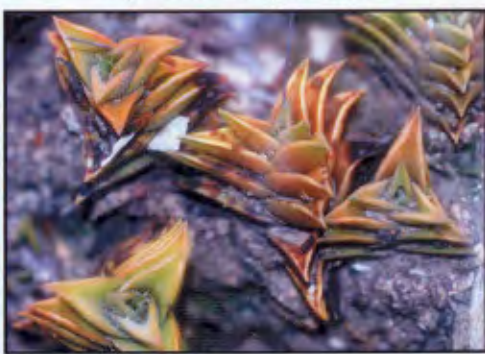


Fig. 171 *H. viscosa* v. *viscosa* IB6657



Fig. 172 *H. vlokii* IB5443



Fig. 173 *H. wimii* IB5388



Fig. 174 *H. wittebergensis* IB175



Fig. 175 *H. woolleyi* IB5526



Fig. 176 *H. xiphiophylla* IB5538



Fig. 177 *H. zantneriana* IB5578

Basionyms and Synonyms

- aegrota* Poelln. = *H. herbacea* var. *herbacea*
agavoides Zantner & Poelln. = *H. sordida* var. *sordida*
albanensis Schönland = *H. angustifolia* var. *angustifolia*
altilinea var. *limpida* forma *inconfluens* Poelln. = *H. mucronata* var. *mucronata*
altilinea var. *morrisiae* Poelln. = *H. mucronata* var. *morrisiae*
angustifolia var. *denticulifera* Poelln. = *H. chloracantha* var. *denticulifera*
angustifolia var. *paucifolia* G.G.Sm. = *H. angustifolia* var. *angustifolia*
angustifolia var. *grandis* G.G. Sm. = *H. angustifolia* var. *angustifolia*
angustifolia var. *liliputana* Uitewaai = *H. chloracantha* var. *denticulifera*
arachnoidea var. *minor* Haw. = *H. arachnoidea* var. *arachnoidea*
arachnoidea var. *namaquensis* M.B.Bayer = *H. arachnoidea* var. *setata*
arachnoidea var. *scabrispina* M.B.Bayer = *H. arachnoidea* var. *gigas*
armstrongii Poelln. = *H. glauca*
asperiuscula Haw. = *H. viscosa*
asperiuscula var. *patagiata* G.G. Sm. = *H. viscosa*
asperiuscula var. *subintegra* G.G. Sm. = *H. viscosa*
atrofusca G.G.Sm. = *H. magnifica* var. *atrofusca*
attenuata var. *deltoidea* R.S. Farden = *H. attenuata* var. *attenuata*
attenuata var. *inusetata* R.S. Farden = *H. attenuata* var. *attenuata*
attenuata var. *linearis* R.S. Farden = *H. attenuata* var. *attenuata*
attenuata var. *minissima* R.S. Farden = *H. attenuata* var. *attenuata*
attenuata var. *o'donoghueana* R.S. Farden = *H. attenuata* var. *attenuata*
attenuata var. *uitewaaliana* R.S. Farden = *H. attenuata* var. *attenuata*
batesiana Uitewaai = *H. marumiana* var. *batesiana*
batteniae C.L.Scott = *H. bolusii* var. *blackbeardiana*
baylissii C.L.Scott = *H. angustifolia* var. *baylissii*
beanii var. *minor* G.G.Sm. = *H. beanii*
blackburniae var. *derustensis* M.B.Bayer = *H. graminifolia*
bolusii var. *aranea* A.Berger = *H. arachnoidea* var. *aranea*
bolusii var. *semiviva* Poelln. = *H. semiviva*
brevis Haw. = *H. minima*
britteniana Poelln. = *H. attenuata* var. *attenuata*
browniana Poelln. = *H. fasciata*
carrisoii Resende = *H. glauca*
chalwinii Marloth & Berger = *H. coarctata* var. *coarctata*
clariperla Haw. = *H. attenuata* var. *attenuata*
coarctata var. *haworthii* forma *major* Resende = *H. coarctata* var. *coarctata*
coarctata var. *krausii* Resende = *H. coarctata* var. *coarctata*
concava Haw. = *H. cymbiformis* var. *cymbiformis*
concinna Haw. = *H. viscosa*
cordifolia Haw. = *H. viscosa*
cymbiformis var. *angustata* Poelln. = *H. cymbiformis* var. *cymbiformis*
cymbiformis var. *angustata* forma *subarmata* Poelln. = *H. cymbiformis* var. *cymbiformis*
cymbiformis var. *brevifolia* Poelln. = *H. transiens*
cymbiformis var. *compacta* Triebner = *H. cymbiformis* var. *cymbiformis*
cymbiformis var. *multifolia* Triebner = *H. transiens*
cymbiformis Duval var. *obesa* Poelln. = *H. cymbiformis* var. *setulifera*
cymbiformis var. *translucens* Triebner & Poelln. = *H. transiens*
decipiens var. *cyanea* M.B.Bayer = *H. cyanea*
dekenahii var. *argenteo-maculosa* G.G.Sm. = *H. pygmaea* var. *argenteo-maculosa*
dielsiana Poelln. = *H. cooperi* var. *dielsiana*
distincta N.E.Br. = *H. venosa*
divergens M.B.Bayer = *H. monticola*
diversifolia Poelln. = *H. nigra* var. *diversifolia*
eilyae Poelln. = *H. glauca*
eilyae var. *zantneriana* Resende = *H. glauca*
emelyae var. *beukmannii* Poelln. = *H. beukmannii*
emelyae var. *multifolia* M.B.Bayer = *H. multifolia*
engleri Dinter = *H. tessellata*
erecta Haw. = *H. minima*
fallax Poelln. = *H. coarctata* var. *coarctata*
fasciata var. *caespitosa* A.Berger = *H. attenuata* var. *attenuata*
fasciata var. *fasciata* forma *ovato-lanceolata* Poelln. = *H. fasciata*
fasciata var. *fasciata* forma *sparsa* Poelln. = *H. fasciata*
fasciata var. *fasciata* forma *vanstadensis* Poelln. = *H. fasciata*
fasciata var. *fasciata* forma *variabilis* Poelln. = *H. fasciata*
fasciata var. *subconfluens* Poelln. = *H. fasciata*
floribunda var. *dentata* M.B.Bayer = *H. dentata*
fouchei Poelln. = *H. retusa*
fulva G.G.Sm. = *H. coarctata* var. *coarctata*
gigas Poell. = *H. arachnoidea* var. *setata*
gracilis var. *viridis* M.B.Bayer = *H. decipiens* var. *minor*
granata var. *polyphylla* Haw. = *H. minima*
greenii Baker = *H. coarctata* var. *coarctata*
greenii forma *minor* Resende = *H. coarctata* var. *coarctata*
greenii var. *silvicola* G.G.Sm. = *H. coarctata* var. *coarctata*
guttata Uitewaai = *H. reticulata* var. *reticulata*
haageana Poelln. = *H. reticulata* var. *subregularis*
haageana var. *subreticulata* Poelln. = *H. reticulata* var. *subregularis*
herbacea var. *lupula* M.B.Bayer = *H. lupula*
herrei Poelln. = *H. glauca*
herrei var. *depauperata* Poelln. = *H. glauca*
hilliana Poelln. = *H. cymbiformis* var. *obtusata*
hurlingii Poelln. = *H. reticulata* var. *hurlingii*
hurlingii var. *ambigua* Triebner & Poelln. = *H. reticulata* var. *reticulata*

- indurata* Haw. = *H. viscosa*
inermis Poelln. = *H. bolusii* var. *blackbeardiana*
jacobseniana Poelln. = *H. glauca*
joeyae C.L.Scott = *H. cooperi* var. *dielsiana*
jonesiae Poelln. = *H. glauca*
laetevirens Haw. = *H. turgida* var. *turgida*
laevis Haw. = *H. marginata*
lateganiae Poelln. = *H. starkiana*
lepida G.G.Sm. = *H. cymbiformis* var. *cymbiformis*
limifolia var. *gigantea* M.B.Bayer = *H. limifolia*
limifolia var. *keithii* G.G.Sm. = *H. limifolia* var. *ubomboensis*
limifolia var. *limifolia* forma *diploidea* Resende = *H. limifolia* var. *limifolia*
limifolia var. *limifolia* forma *tetraploidea* Resende = *H. limifolia* var. *limifolia*
limifolia var. *stolonifera* Resende = *H. limifolia* var. *limifolia*
limifolia var. *stolonifera* forma *major* Resende = *H. limifolia* var. *limifolia*
limifolia var. *stolonifera* forma *pimentellii* Resende = *H. limifolia* var. *limifolia*
limpida Haw. = *H. mucronata* var. *mucronata*
longiana var. *albinota* G.G.Sm. = *H. longiana*
longiaristata Poelln. = *H. xiphiophylla*
longibracteata G.G.Sm. = *H. turgida* var. *longibracteata*
luteorosea Uitewaal = *H. herbacea* var. *herbacea*
magnifica var. *splendens* J.D.Venter & S.A.Hammer = *H. splendens*
maraisii Poelln. = *H. magnifica* var. *maraisii*
maraisii var. *meiringii* M.B. Bayer = *H. meiringii*
margaritifera var. *corallina* Baker = *H. minima*
mclarenii Poelln. = *H. aristata*
mcmurtryi C.L.Scott = *H. koelmaniorum* var. *mcmurtryi*
minutissima Poelln. = *H. tessellata*
mirabilis var. *calcareae* M.B.Bayer = *H. calcarea*
mirabilis var. *consanguinea* M.B.Bayer = *H. caespitosa*
monticola var. *asema* M.B. Bayer = *H. asema*
morrisiae Poelln. = *H. scabra*
mucronata var. *rooibergensis* J.M. Esterhuizen & L. Battista = *H. rooibergensis*
mundula G.G.Sm. = *H. mirabilis*
musculina G.G.Sm. = *H. coarctata* var. *coarctata*
mutabilis Poelln. = *H. minima*
mutica Haw. var. *nigra* M.B. Bayer = *H. chromutica*
nitidula Poelln. = *H. triebneriana* var. *triebneriana*
nortieri var. *giftbergensis* G.G.Sm. = *H. nortieri*
nortieri var. *montana* G.G.Sm. = *H. nortieri*
obtusa Haw. = *H. cymbiformis* var. *obtusa*
otzenii G.G.Sm. = *H. mutica*
pallida Haw. = *H. herbacea* var. *herbacea*
papillosa var. *semipapillosa* Haw. = *H. maxima*
parva Haw. = *H. tessellata*
paynei Poelln. = *H. herbacea*
peacockii Baker = *H. coarctata* var. *coarctata* forma *greenii*
pellucens Haw. = *H. herbacea* var. *herbacea*
pilifera Baker = *H. cooperi* var. *pilifera*
pilifera var. *dielsiana* forma *acuminata* Poelln. = *H. cooperi* var. *pilifera*
planifolia Haw. = *H. cymbiformis* var. *cymbiformis*
planifolia var. *exulata* Poelln. = *H. cymbiformis* var. *cymbiformis*
planifolia var. *incrassata* Poelln. = *H. cymbiformis* var. *cymbiformis*
planifolia var. *longifolia* Triebner & Poelln. = *H. cymbiformis* var. *cymbiformis*
planifolia var. *longifolia* forma *calochlora* Triebner & Poelln. = *H. cymbiformis* var. *cymbiformis*
planifolia var. *planifolia* forma *agavoides* Triebner & Poelln. = *H. cymbiformis* var. *cymbiformis*
planifolia var. *planifolia* forma *alta* Triebner & Poelln. = *H. cymbiformis* var. *cymbiformis*
planifolia var. *planifolia* forma *olivacea* Triebner & Poelln. = *H. cymbiformis* var. *cymbiformis*
planifolia var. *planifolia* forma *robusta* Triebner & Poelln. = *H. cymbiformis* var. *cymbiformis*
planifolia var. *poellnitziana* Resende = *H. cymbiformis* var. *cymbiformis*
planifolia var. *setulifera* Poelln. = *H. cymbiformis* var. *setulifera*
planifolia var. *sublaevis* Poelln. = *H. cymbiformis* var. *cymbiformis*
planifolia var. *transiens* Poelln. = *H. cymbiformis* var. *transiens*
poellnitziana Uitewaal = *H. minima*
pseudotessellata Poelln. = *H. tessellata*
pulchella var. *globifera* M.B.Bayer = *H. globifera*
radula var. *pluriperlata* Haw. = *H. attenuata* var. *radula*
ramifera Haw. = *H. marginata*
ramosa G.G.Sm. = *H. cymbiformis* var. *ramosa*
reinwardtii var. *adelaidensis* Poelln. = *H. coarctata* var. *adelaidensis*
reinwardtii var. *archibaldiae* Poelln. = *H. reinwardtii* var. *reinwardtii*
reinwardtii var. *bellula* G.G.Sm. = *H. coarctata* var. *adelaidensis*
reinwardtii var. *chalumnensis* G.G.Sm. = *H. reinwardtii* var. *reinwardtii*
reinwardtii var. *committeesensis* G.G.Sm. = *H. coarctata* var. *coarctata*
reinwardtii var. *conspicua* Poelln. = *H. coarctata* var. *coarctata*
reinwardtii var. *diminuta* G.G.Sm. = *H. reinwardtii* var. *brevicula*
reinwardtii var. *grandicula* G.G.Sm. = *H. reinwardtii* var. *reinwardtii*
reinwardtii var. *huntsdriftensis* G.G.Sm. = *H. coarctata* var. *coarctata*
reinwardtii var. *kaffirdriftensis* G.G.Sm. = *H. reinwardtii* var. *reinwardtii*
reinwardtii var. *major* Baker = *H. reinwardtii* var. *reinwardtii*
reinwardtii var. *olivacea* G.G.Sm. = *H. reinwardtii* var. *zebrina*
reinwardtii var. *peddiensis* G.G.Sm. = *H. reinwardtii* var. *reinwardtii*
reinwardtii var. *pseudocoarctata* Poelln. = *H. coarctata* var. *coarctata*
reinwardtii var. *pulchra* Poelln. = *H. reinwardtii* var. *reinwardtii*
reinwardtii var. *riebeekensis* G.G.Sm. = *H. coarctata* var. *adelaidensis*

reinwardtii var. *tenuis* G.G.Sm. = *H. coarctata* var. *tenuis*
reinwardtii var. *triebnerii* Resende = *H. reinwardtii* var.
reinwardtii
reinwardtii var. *valida* G.G.Sm. = *H. reinwardtii* var.
reinwardtii
reticulata var. *acuminata* Poelln. = *H. reticulata* var.
reticulata
reticulata var. *attenuata* M.B. Bayer = *H. reticulata* var.
reticulata
retusa forma *acuminata* M.B.Bayer = *H. acuminata*
retusa var. *densiflora* G.G.Sm. = *H. retusa*
retusa var. *multilineata* G.G.Sm. = *H. retusa*
retusa var. *solitaria* G.G.Sm. = *H. retusa*
rycroftiana M.B.Bayer = *H. integra*
ryneveldii Poelln. = *H. nigra* var. *nigra*
schmidtiana Poelln. = *H. nigra* var. *nigra*
schmidtiana var. *angustata* Poelln. = *H. nigra* var. *nigra*
schmidtiana var. *diversifolia* forma *nana* Poelln. = *H.*
nigra var. *diversifolia*
schmidtiana var. *elongata* Poelln. = *H. nigra* var. *nigra*
schuldtiana var. *erecta* Triebner & Poelln. = *H. notabilis*
schuldtiana var. *maculata* Poelln. = *H. maculata*
schuldtiana var. *major* G.G.Sm. = *H. wimii*
schuldtiana var. *minor* Triebner & Poelln. = *H.*
schuldtiana
schmidtiana var. *pusilla* Poelln. = *H. nigra* var. *nigra*
schuldtiana var. *robertsonensis* Poelln. = *H. schuldtiana*
schuldtiana var. *simplicior* Poelln. = *H. schuldtiana*
schmidtiana var. *suberecta* Poelln. = *H. nigra* var. *nigra*
schuldtiana var. *sublaevis* Poelln. = *H. schuldtiana*
schuldtiana var. *subtuberculata* Poelln. = *H. schuldtiana*
schuldtiana var. *unilineata* Poelln. = *H. schuldtiana*
semiglabrata Haw. = *H. maxima*
setata Haw. = *H. arachnoidea* var. *setata*
setata var. *major* Haw. = *H. arachnoidea* var. *setata*
setata var. *media* Haw. = *H. arachnoidea* var. *setata*
setata var. *nigricans* Haw. = *H. arachnoidea* var. *nigricans*
setata var. *subinermis* Poelln. = *H. aristata*
smitii Poelln. = *H. starkiana*
stayneri Poelln. = *H. cooperi* var. *pilifera*
stayneri var. *salina* Poelln. = *H. cooperi* var. *pilifera*
sublimpidula Poelln. = *H. schuldtiana*
submaculata Poelln. = *H. herbacea*
subregularis Baker = *H. reticulata* var. *subregularis*
tessellata var. *coriacea* Resende & Poelln. = *H. tessellata*
tessellata var. *coriacea* forma *brevior* Resende & Poelln. =
H. tessellata
tessellata var. *coriacea* forma *longior* Resende & Poelln. =
H. tessellata
tessellata var. *elongata* Woerden = *H. tessellata*
tessellata var. *inflexa* Baker = *H. tessellata*
tessellata var. *luisieri* Resende & Poelln. = *H. tessellata*
tessellata var. *obesa* Resende & Poelln. = *H. tessellata*
tessellata var. *palthiniae* Resende & Poelln. = *H. tessellata*
tessellata var. *parva* forma *major* J.R.Br. = *H. tessellata*
tessellata var. *simplex* Resende & Poelln. = *H. tessellata*
tessellata var. *stephaniana* Resende & Poelln. = *H.*
tessellata
tessellata var. *tuberculata* Poelln. = *H. tessellata*
tessellata var. *velutina* Resende & Poelln. = *H. tessellata*
torquata Haw. = *H. viscosa*

triebneriana var. *depauperata* Poelln. = *H. triebneriana*
triebneriana var. *diversicolor* Poelln. = *H. schuldtiana*
triebneriana var. *multituberculata* Poelln. = *H.*
triebneriana
triebneriana var. *napierensis* Triebner & Poelln. = *H.*
triebneriana
triebneriana var. *pulchra* Poelln. = *H. triebneriana*
triebneriana var. *rubrodentata* Triebner & Poelln. = *H.*
triebneriana
triebneriana var. *subtuberculata* Poelln. = *H. triebneriana*
triebneriana var. *turgida* Triebner = *H. triebneriana*
truncata forma *tenuis* Poelln. = *H. truncata*
tuberculata var. *acuminata* Poelln. = *H. tuberculata*
tuberculata var. *angustata* Poelln. = *H. tuberculata*
tuberculata var. *subexpansa* Poelln. = *H. tuberculata*
tuberculata var. *sublaevis* Poelln. = *H. tuberculata*
turgida var. *pallidifolia* G.G.Sm. = *H. turgida* var.
suberecta
turgida var. *subtuberculata* Poelln. = *H. turgida* var.
suberecta
ubomboensis I.Verd. = *H. limifolia* var. *ubomboensis*
umbraticola Poelln. = *H. cymbiformis* var. *obtusata*
unicolor Poelln. = *H. aristata*
variegata L.Bolus var. *hemicrypta* M.B. Bayer = *H.*
variegata
variegata var. *modesta* M.B. Bayer = *H. modesta*
variegata var. *petrophila* M.B. Bayer = *H. modesta*
venosa var. *oertendahliae* H.Hjelmquist = *H. venosa*
venteri Poelln. = *H. aristata*
venusta C.L.Scott = *H. cooperi* var. *venusta*
virescens Haw. = *H. marginata*
virescens var. *minor* Haw. = *H. marginata*
viscosa ssp. *derki-clarki* J.J.Halda = *H. viscosa*
viscosa var. *caespitosa* Poelln. = *H. viscosa*
viscosa var. *cougaensis* G.G.Sm. = *H. viscosa*
viscosa var. *major* Haw. = *H. viscosa*
viscosa var. *minor* Haw. = *H. viscosa*
viscosa var. *parvifolia* Haw. = *H. viscosa*
viscosa var. *quaggaensis* G.G.Sm. = *H. viscosa*
viscosa var. *subobtusata* Poelln. = *H. viscosa*
viscosa var. *viridissima* G.G.Sm. = *H. viscosa*
vittata Baker = *H. cooperi* var. *cooperi*
whitesloaneana Poelln. = *H. schuldtiana*
willowmorensis Poelln. = *H. triebneriana*
zantneriana var. *minor* M.B. Bayer = *H. zantneriana*

3. Doubtful Names (nomen dubium)

H. bijliana var. *joubertii* Poelln.
H. caespitosa forma *subplana* Poelln.
H. caespitosa forma *subproliferans* Poelln.
H. correcta Poelln.
H. emelyae Poelln.
H. rossouwii Poelln.

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Breuer	Ba	Es	Ha	Sc	Breuer	Ba	Es	Ha	Sc
minima	1	1	1	1	rooibergensis		1	1	
mirabilis	1	1	1	1	scabra var. johannii			1	
modesta		1	1		scabra var. scabra	1	1	1	1
monticola	1	1		1	schuldiana			1	
mucronata var. calitzdorpensis n.n.					scottii n.n.				
mucronata var. morrisiae	1	1		1	semiviva	1	1	1	1
mucronata var. mucronata	1	1	1	1	serrata	1	1	1	1
multifolia var. multifolia		1	1		sordida var. lavranii	1	1	1	1
multifolia var. sandkraalensis n.n.					sordida var. sordida	1	1	1	1
mutica	1	1	1	1	splendens			1	
nigra var. diversifolia	1		1		springbokvlakensis	1	1	1	1
nigra var. nigra	1		1	1	starkiana		1	1	1
nortieri	1	1	1	1	tenera			1	1
notabilis			1		tessellata		1	1	1
odetteae n.n.					tradouwensis n.n.				
opalina			1		transiens			1	
outeniquensis	1		1		tretyrensis n.n.				
paradoxa		1	1	1	triebneriana var. depauperata				
parksiana	1	1	1		triebneriana var. sublineata				
pehlemanniae		1	1	1	triebneriana var. triebneriana				
petrophila			1		truncata forma crassa				
picta var. janvlokii n.n.					truncata forma truncata	1	1	1	1
picta var. picta		1	1	1	truncata var. minor n.n.				
picta var. tricolor n.n.					tuberculata				1
pringlei			1		turgida var. longibracteata	1	1	1	
pubescens var. livida	1				turgida var. suberecta	1	1	1	
pubescens var. pubescens	1	1	1		turgida var. turgida	1	1	1	
pulchella	1	1	1	1	variegata	1	1	1	1
pungens	1		1		venosa		1	1	1
pygmaea var. argenteo-maculosa	1	1			viscosa var. variabilis n.n.				
pygmaea var. pygmaea	1	1	1		viscosa var. viscosa	1		1	1
reddii			1	1	vlokii	1	1	1	
reinwardtii var. brevicula	1	1	1	1	wimii			1	
reinwardtii var. reinwardtii	1	1	1	1	wittebergensis	1	1	1	1
reinwardtii var. zebrina				1	woolleyi		1	1	
reticulata var. hurlingii	1	1	1		xiphiophylla		1	1	1
reticulata var. reticulata	1	1	1	1	zantneriana	1	1	1	1
reticulata var. subregularis	1		1			95	102	110	70
retusa	1	1	1	1	*different taxon				

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SPECIAL ISSUE NO. 1 JUNE 2002 - SUPPLEMENT
HABITAT REFERENCES FOR THE PLANTS SHOWN IN THE
PHOTOGRAPHS IN SPECIAL ISSUE NO. 1 PAGES 7-18

pungens IB6133 N of Joubertina [3323DD]
pygmaea var. **argenteo-maculosa** IB5330 Hill near Cooper Station, 20 km NE of Albertinia [3421BB]
pygmaea var. **pygmaea** IB2840 = JDV84-15 Great Brakrivier [3422AA]
reddii IB5327 = GM420 10 km SE of Sada, SW of Queenstown [3226BD]
reinwardtii var. **brevicula** IB5698 20 km E of Kaffir drift [3327AC]
reinwardtii var. **reinwardtii** IB7016 Thornhill [3327AC]
reinwardtii var. **zebrina** IB6976 3 km W of Kaffir drift Police Station, [3326BD]
reticulata var. **hurlingii** IB5807 = DT2414 Breede River, W of Bonnievale [3320CC]
reticulata var. **reticulata** B790 = SS1187 Ribbokkop 20 km SE of Worcester [3319DC]
reticulata var. **subregularis** B5802 = IS1872 no data
retusa IB715 Riversdale [3421AB]
rooibergensis IB6230 = JME7-97 E of Van Wyksdorp [3321DA]
scabra var. **johannii** IB7184, Boegoeskraal [3323CC]
scabra var. **scabra** B7188 Brandhoek [3323DD]
achuldiana IB6018 S of Robertson [3319DD]
scottii n.n. B5418 Gamka East, 10 km SE of Calitzdorp [3321DA]
semiviva IB218 Beaufort West [3222BC]
serrata IB6190udekraalkop, SW of Heidelberg [3420BA]
sordida var. **lavranii** IB6501, Tretyre, 30 km SE of Steytlerville [3324BC]
sordida var. **sordida** IB227 Steytlerville [3324AD]
splendens IB5375 = JDV93-59 W of Albertinia [3421BA]
springbokvlakens IB321 Springbokvlakte [3324BD]
starkiana IB5384 Schoemanspoort, 20 km N of Oudtshoorn [3322AC]
tenera DB430 Grahamstown [3326BC]
tessellata IB7135 Bethel, 55 km N of Sutherland [3220AB]
tradouwensis n.n. IB5510 Top of Tradouw Pass [3320DC]
transiens IB5367 Prince Alfred's Pass, S of Uniondale [3323CC]
tretyrensis n.n. IB5372 Tretyre, 30 km SE of Steytlerville [3324BC]
triebneriana var. **sublineata** IB6162 = JDV88-67 S of Bredasdorp [3420CA]
triebneriana var. **triebneriana** IB4522 N of Stonnsvlei [3420AA]
truncata forma **crassa** IB5410 = GM288 SW of Calitzdorp [3321DA]
truncata var. **minor** n.n. IB6629 NE of Kammanassie Dam [3322CB]
truncata forma **truncata** IB341 Oudtshoorn [3322CA]
tuberculata B5351 = VDV109 SE of Oudtshoorn [3322CA]
turgida var. **longibracteata** IB644 SE of Riversdale [3421AB]
turgida var. **suberecta** IB100 = KGW95-71 Gouritz River [3421BA]
turgida var. **turgida** IB4215 = JDV84-72 N2 bridge across Breede River [3420AB]
variegata B5135 = JDV89-6 Botterkloof NW of Stilbay [3421AD]
venosa IB5 115 Breede River SW of Swellendam [3420AB]
viscosa var. **variabilis** n.n. IB7193 Brandekraal, Jouberts kraalrivier [3324CD]
viscosa var. **viscosa** IB6657 30 km from R57 tumoffto Baviaanskloof [3323DA]
vlokii B5443 Swartberg Mountains [3322BC]
wimii IB5388 Muiskraal, 20 km NW of Riversdale [3321CC]
Wittebergensis IB175, Witteberg Valley, SW of Laingsburg [3320BC]
woolleyi IB5526 Springbokvlakte, SW of Kleinpoort [3324BD]
xiphiophylla IB5538 near Uitenhage [3325CB]
zantneriana IB5578 Kampherspoort to Steytlerville [3324AB]

acuminata B 272 Gouritzmon [3421BD]
albertinensis n.n. IB5342 = GM320 10 km NE of Albertinia [3421BA]
angustifolia var. **altissima** IB4154 = SS1034 Willowfontain, NE of Riebeeck East [3326AA]
angustifolia var. **angustifolia** IB5743 Grahamstown [3326BC]
angustifolia var. **baylissii** IB 5172 Oudekraal, NE of Kirkwood [3325BC]
arachnoidea var. **arachnoidea** IB6051 = DMC8275 S of Eilandia Turn off. [3319DC]
arachnoidea var. **aranea** IB6579 immediately E of Ladismith. [3321 AD]
arachnoidea var. **gigas** IB6448 Laingsburg [3320BB]
arachnoidea var. **setata** B6577. N of De Rust, [3322BC]
archeri v. **archer** IB6679 = JDV87-189 Matjiesfontein [3320BA]
archeri v. **dimorpha** CC01340 Touws River, [3320AC]
aristata IB6585. Buffelsvlei [3321 AC]
asema BB4553 = JDV90-10 Besemkop, Calitzdorp [332 IDA]
attenuata var. **attenuata** IB346 Fish River, E of Humansdorp [3424BB]
attenuata var. **radula** B6522 NE of Hankey [3324DD]
badia IB311 = LAV26904 W of Napier [3419BD]
bayeri var. **bayeri** B5620 = JDV91-152 near De Rust [3322BC]
bayeri var. **scabrifolia** n.n. IB6383 = VDV445 E of Ezeljachtpoort, 30 km NE of George [3322DA]
beanii IB284 10 km NE of Patensie [3324DD]
beukmannii IB 155 Nethercourt, SE of Greyton [3419BA]
blackbeardiana var. **blackbeardiana** IB77 = DMC0370 N of Cathcart [3227AC]
blackbeardiana var. **major** IB7013 Rayner's Kop [3226BC]
blackburniae IB5528 Rooiberg Pass, SW of Calitzdorp [3321DA]
bolusii B5438 Graaf-Reinet [3224BC]
bronkhorstii IB834 Witberg, SE of Willowmore [3323BC]
bruynsii IB6451 = JDV91-123 Langveld, [3324AD]
caespitosa B4521 Riversonderend, SE of McGregor [3419BB]
calcarea IB231 = JDV84-65 De Hoop Nature Reserve, E of Bredasdorp [3420CA]
chloracantha var. **chloracantha** BB5470 = SS1117NofHerbertsdale [3321DD]
chloracantha var. **denticulifera** IB5594 Mossel Bay [3422AA]
chloracantha var. **subglauca** IB5497 Mossel Bay [3422AA]
chromutica B5639 = JDV86-16 Kransriviermond, S of Heidelberg [3420BB]
coarctata var. **adelaidensis** IB387. Salem, S of Grahamstown [3326AD]
coarctata var. **coarctata** IB6549. Kariaga, 30 km E of Alexandria [3326DA]
coarctata var. **tenuis** IB5843 Eccia Pass, NE of Grahamstown [3326BA]
comptoniana IB4535 = JDV90-8 Willowmore [3323AD]

cooperi var. **cooperi** IB6144 Table Farm, [3326AD]
cooperi var. **dielsiana** IB6159 = GM316 Eastpoort Station, 10 km NE of Cookhouse [3325DB]
cooperi var. **pilifera** IB5530 10 km NW of Motherwell, [3325DC]
cooperi var. **truncata** IB639 = ISI176 Bolo, NE of Stutterheim [3327BC]
cooperi var. **venusta** IB6130 Kenton on Sea [3326DA]
cyanea IB5397 = VDV046 near Tierberg, 20 km NE of Prince Albert [3322AB]
cymbiformis var. **cymbiformis** IB4169 = SS1001 Baakens Valley, W of Port Elizabeth [3325CD]
cymbiformis var. **obtus** IB6072 = JDV91-100, N of Fort Beaufort [3326DC]
cymbiformis var. **ramosa** EB5740 Wooldridge. Peddie [3327AB]
cymbiformis var. **setulifera** IB4750 = JDV91-91 Rainbow Valley, East London [3327BB]
decipiens var. **decipiens** B5679 Willowmore [3323AD]
decipiens var. **minor** IB6296 = DMC8583 N-entrance of Grootpoort [3325AC]
dekenahii B2841 No data.
dentata IB 5130 Albertinia [3421BA]
denticulata IB5597 = DT1925 between Uitenhage and Steytlerville [3325CB]
devriesii n.n. B6930 = VDV643, N of Prince Albert [3322AA]
esterhuizeaii n.n. B733 = DT1908 30 km W of Swellendam [3420AA]
fasciata B7195 Brandekraal, Jouberts-kraalrivier [3324CD]
floribunda var. **floribunda** B2832 = JDV 89-22 Blackdown, N of Heidelberg [3420BB]
floribunda var. **major** IB608 = JDV91-3 S of Swellendam [3420AB]
geraldii IB4202 = DT1909 NE of Riversdale [3421AB]
glabrata B680 Collywobbles cliffs, Transkei [3328BA]
glauca IB5339 = VDV065 Kampherspoort,

20 km NW of Steytlerville [3324AA]
globifera IB6167 Touwsberg, [3320DB]
globosiflora IB5396 Clanwilliam [321SBB]
gordoniana IB6442 Port Elizabeth [3325DC]
gracilis var. **gracilis** IB5551 N of the entrance to Hespoot, NW of Grahamstown [3326AB]
gracilis var. **picturata** IB6184 = JDV90-76 Andrieskraal, W of Patensie [3324DA]
graminifolia PV99 Schoemanspoort, [3322AQ]
granulata IB5690 entrance of Veriatekloof SW of Sutherland [3320DA]
habdomadis B5417 = VDV083 Sevenweekspoort, 10 km NE of Ladismith [3321AD]
heidelbergensis var. **heidelbergensis** IB796 = ISI1857, near Heidelberg [3420BB]
heidelbergensis var. **minor** IB6154 = JDV 86-5 Rooivlei, N of Bredasdorp [3420AC]
heidelbergensis var. **scabra** IB66 Drew [3320CC]
heidelbergensis var. **toonensis** DB2833 Matjestoon [3420BB]
herbacea var. **flaccida** B6478a = JDV9631 Rooiberg, near Robertson [3319DD]
herbacea var. **herbacea** IB5562 Sandberge, E of Worcester [3319DA]
incurvula B6539 Pluto's Vale, [3326BB]
integra var. **integra** IB6651 W of Gouritz River Bridge, 15 km NW of Herberdsdale on R327 [3321DC]
integra var. **standeri** IBS 174 Gamkapoort [3321BC]
intermedia B4183 = JDV87-203 N of Klaasvoogds [3319DD]
isabellae B3563 E of Port Elizabeth [3325DC]
jansenvillensis n.n. IB6996 just N of Jansenville [3324DC]
kingiana IB6017 Mossel Bay [3422AA]
koelmaniorum var. **koelmaniorum** IB 5413 Groblersdal [2529AB]
koelmaniorum var. **mcumrui** B5423 = GM272 W of Loskop Dam, Groblersdale [2529AC]
leightonii var. **davidii** n.n. IB6970. 100 km from Port Alfred on R72 [3327BA]

leightonii var. **doldii** n.n. IB6972 * Tyolomnqa River [3327AB]
leightonii var. **leightonii** IB4735 Kayser's Beach [3327BA]
limifolia var. **acrana** B6746, Hectorspruit, Komatipoon [2531BC]
limifolia var. **limifolia** IB396 Hluhluwe [2832AA]
limifolia var. **ubomboensis** IB4529 Ubombo Mountains, Swaziland [2732CA]
lockwoodii IB6739 S of Laingsburg [3320BB]
longiana B6530 N of Patensie turnoff [3324DB]
lupula IB4760 = JDV94-36 Villiersdorp [3319CD]
maculata B5385 Brandvlei Dam, S of Worcester [3319CB]
magnifica var. **atrofusca** IB5675, Spitzkop, W of Riversdale [3421AA]
magnifica var. **magnifica** IB38, Riversdale [3421AB]
magnifica var. **maraisii** IB5926 = ISI93-38 near Swellendam [3420AB]
magnifica var. **pseudomutica** n.n. IB511 10 km N of Riversdale [3421AB]
marginata IB7158 Heidelberg [3420BB]
marumiana var. **batesiana** IB5321 Valley of Desolation [3324BC]
marumiana var. **marumiana** IB5789 = KG29/73, Spring Valley, S of Tarkasta [3326AB]
marumiana var. **viridis** IB4608 = PVB 6252 Vrischgewaagd [3321BD]
maughanii IB839 no data
maxima IB6463 = JDV83-4, Mowers Station, SE of Worcester [3319DA]
meiringii IB4664 = KGW224/70, E of Bonnievale [3320CC]
minima IB6648 Platbos, Schoemanshoek [3421BB]
mirabilis IB4768 Mierkraal, SW of Bredasdorp [3419DB]
modesta B300 Kathoek, NE of Bredasdorp [3420AD]
monticola IB4554 Uniondale [3323CA]

mucronata var. **calitzdorpensis** n.n. IB5435-1 = VDV244 30 km SE of Calitzdorp [3321DC]
mucronata var. **morrisiae** IB7110, Perdeberg, Kammanassie Dam [3322BA]
mucronata var. **mucronata** IB5394 around Ladismith [3321AD]
multifolia var. **multifolia** IB465 = DT3546 Springfontein, 30 km NW of Riversdale [3321CC]
multifolia var. **sandkraalensis** n.n. IB640 Sandkraal, SW of Van Wyksdorp [3321CD]
mutica IB5623 N of Protea [3420AA]
nigra var. **diversifolia** IB7121, Waaikraal [3321BD]
nigra var. **nigra** IB4188 = LAV26056 The Fort, N of Grahamstown [3326BA]
nortieri IB6166 = EA667, Bulshoekdam, Clanwilliam [3218BB]
notabilis IB4665 = JDV87-97 W of Wolfkloof, Robertson [3319DD]
odetteae n.n. IB6998, E of turnoff to Lootskloof [3324DD]
opalina IB5653 = MBB0215, Brandrivier, N of Langeberg Mountain [3321CC]
outeniquensis IB4607 = JDV94-92, Moreasrivier, 30 km SW of Oudtshoor [3322CC]
paradoxa IB 2834 = JDV86-78 SW of Vennaaklikheid [3420BC]
parksiana IB 850, near Great Brakrivier [3422AA]
pehlemanniae IB6204 = EA801, Klipfontein, Moordenaarskroon [3320BB]
picta var. **janvlokii** n.n. IB5334, near Kammanassie Dam. 10 km S of Dysseldorp [3322CB]
picta var. **picta** IB5337 Mount Hope 25 km S of Oudtshoorn [3322CC]
picta var. **tricolor** n.n. IB6775, Rooiberg Pass, SW of Calitzdorp [3321DA]
pringlei IB6472 40 km SW of Adelaide [3325DD]
pubescens var. **livida** IB5448 = JDV88-31 Lemoenpoort, S of Worcester [3319CD]
pubescens var. **pubescens** IB5561, Sandberge, SE of Worcester [3319DA]
pulchella IB4784 = JDV87-187 Avondrust SE of Touwsrivier [3320AC]